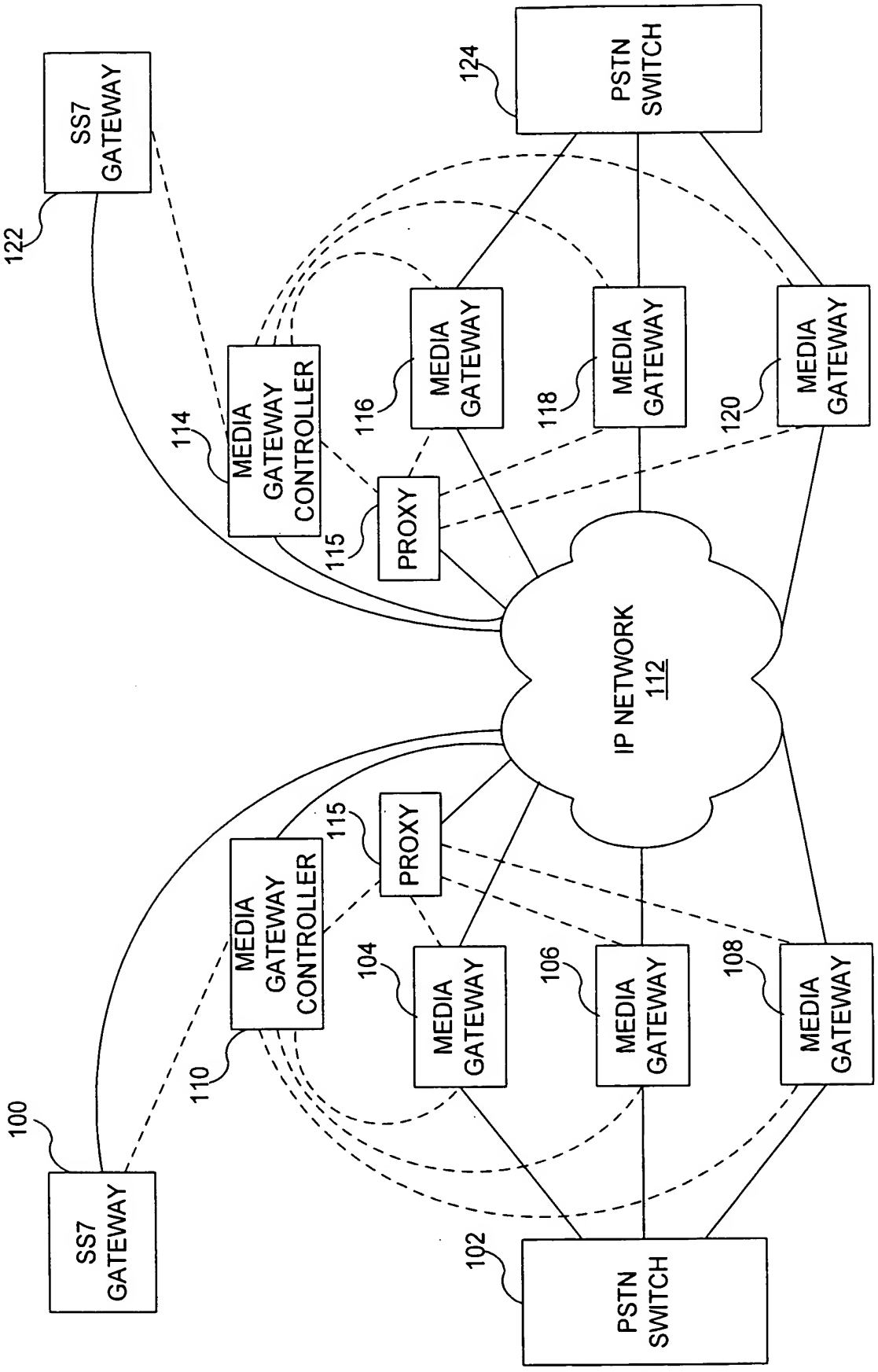
SS7 GATEWAY
122
PSTN SWITCH
124
MEDIA GATEWAY CONTROLLER
114
MEDIA GATEWAY
116
MEDIA GATEWAY
118
MEDIA GATEWAY
120
PROXY
115
IP NETWORK
112
PROXY
115
MEDIA GATEWAY CONTROLLER
110
MEDIA GATEWAY
104
MEDIA GATEWAY
106
MEDIA GATEWAY
108
SS7 GATEWAY
100
PSTN SWITCH
102

FIG. 1

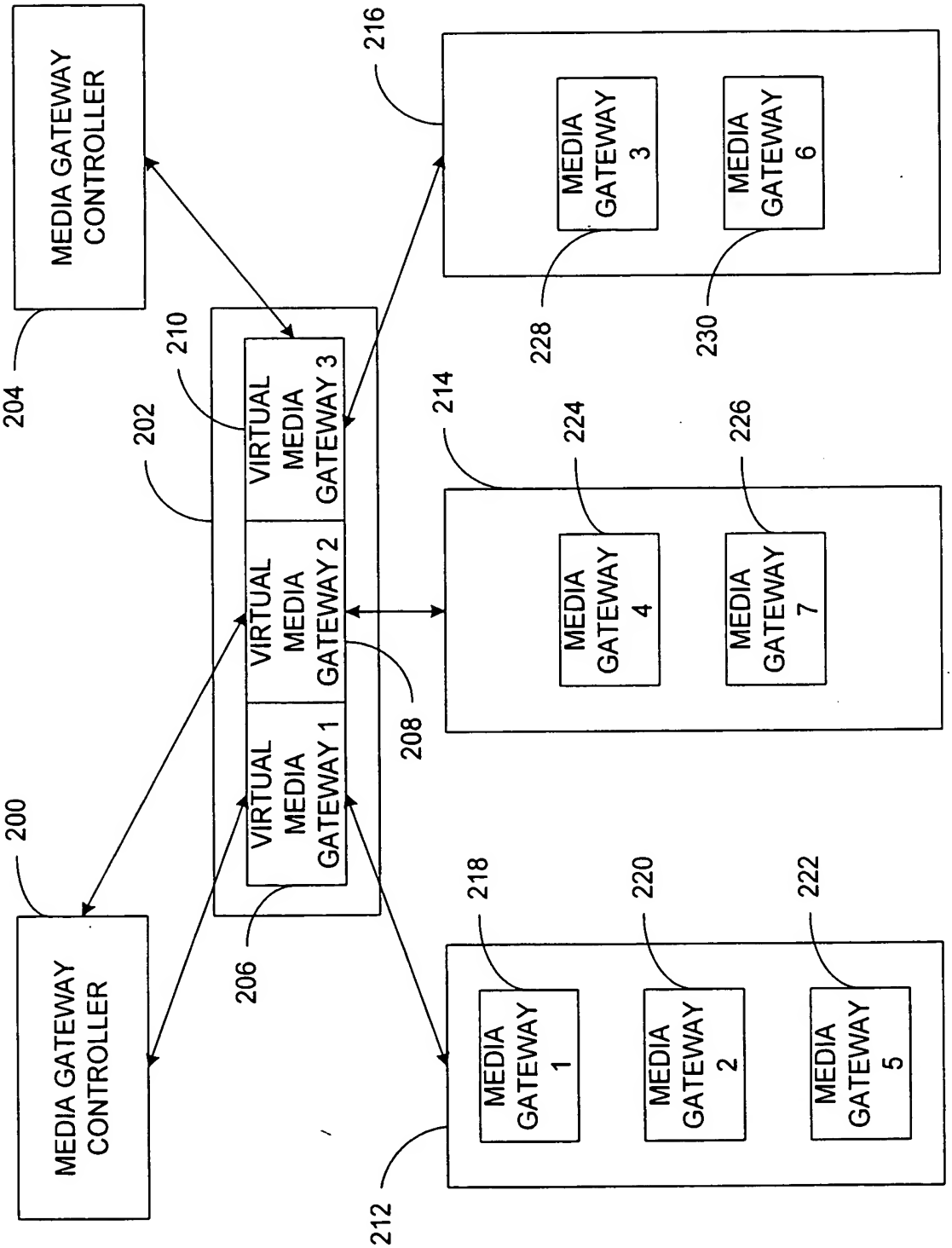
MEDIA GATEWAY CONTROLLER
204
MEDIA GATEWAY CONTROLLER
200
202
VIRTUAL MEDIA GATEWAY 3
VIRTUAL MEDIA GATEWAY 2
VIRTUAL MEDIA GATEWAY 1
210
206
208
216
MEDIA GATEWAY 3
MEDIA GATEWAY 6
228
230
214
MEDIA GATEWAY 4
MEDIA GATEWAY 7
224
226
218
220
222
MEDIA GATEWAY 1
MEDIA GATEWAY 2
MEDIA GATEWAY 5
212

FIG. 2

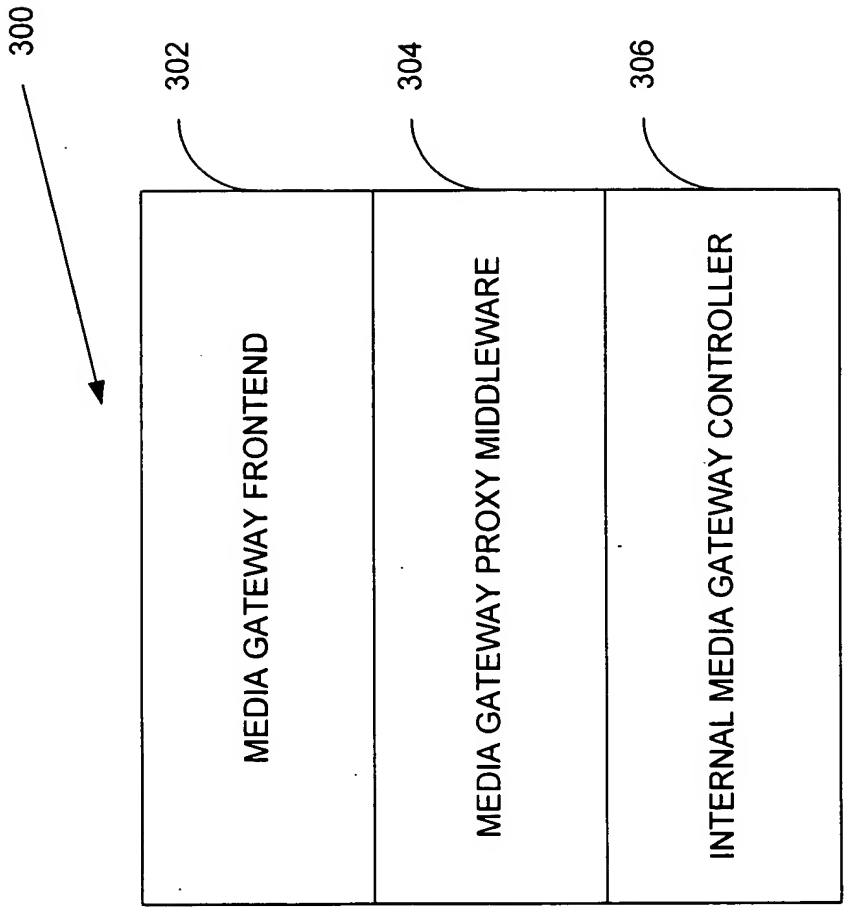
300
302
304
306
MEDIA GATEWAY FRONTEND
MEDIA GATEWAY PROXY MIDDLEWARE
INTERNAL MEDIA GATEWAY CONTROLLER

FIG. 3

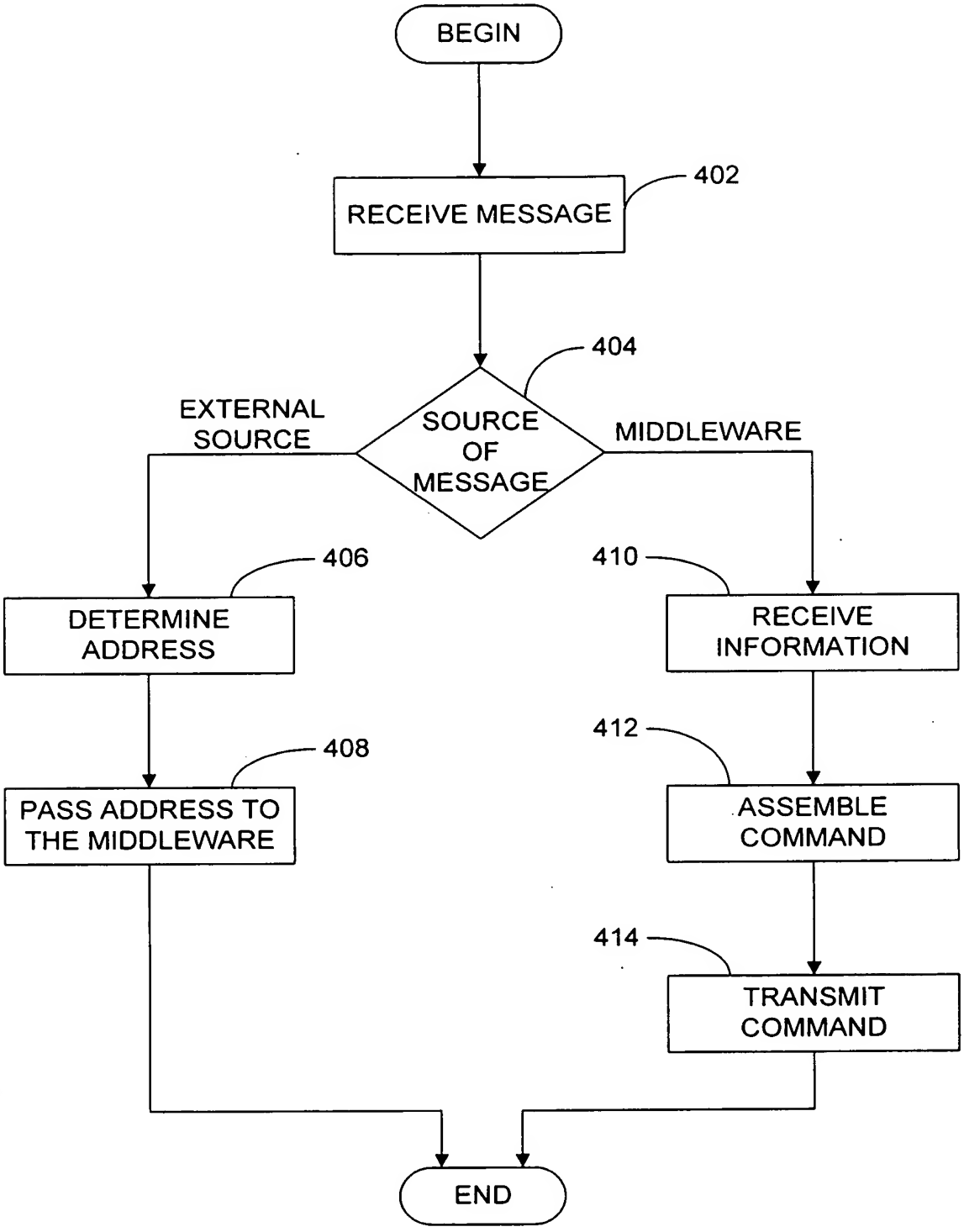
BEGIN
RECEIVE MESSAGE
402
404
SOURCE OF MESSAGE
EXTERNAL SOURCE
MIDDLEWARE
406
DETERMINE ADDRESS
408
PASS ADDRESS TO THE MIDDLEWARE
410
RECEIVE INFORMATION
412
ASSEMBLE COMMAND
414
TRANSMIT COMMAND
END

FIG. 4

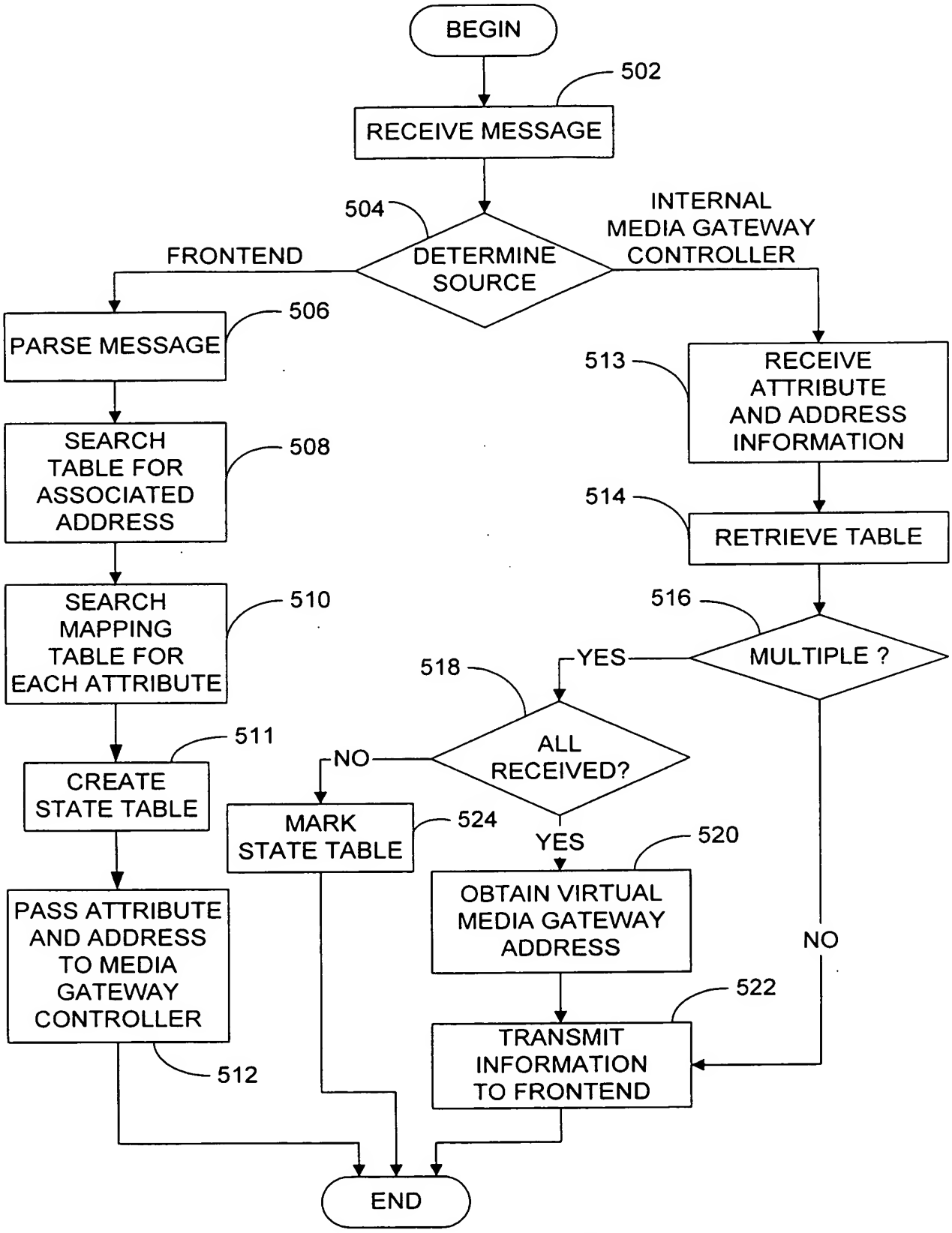
BEGIN
502
RECEIVE MESSAGE
504
DETERMINE SOURCE
FRONTEND
INTERNAL MEDIA GATEWAY CONTROLLER
506
PARSE MESSAGE
508
SEARCH TABLE FOR ASSOCIATED ADDRESS
510
SEARCH MAPPING TABLE FOR EACH ATTRIBUTE
511
CREATE STATE TABLE
PASS ATTRIBUTE AND ADDRESS TO MEDIA GATEWAY CONTROLLER
512
513
RECEIVE ATTRIBUTE AND ADDRESS INFORMATION
514
RETRIEVE TABLE
516
MULTIPLE ?
YES
NO
518
ALL RECEIVED?
NO
YES
524
MARK STATE TABLE
520
OBTAIN VIRTUAL MEDIA GATEWAY ADDRESS
522
TRANSMIT INFORMATION TO FRONTEND
END

FIG. 5

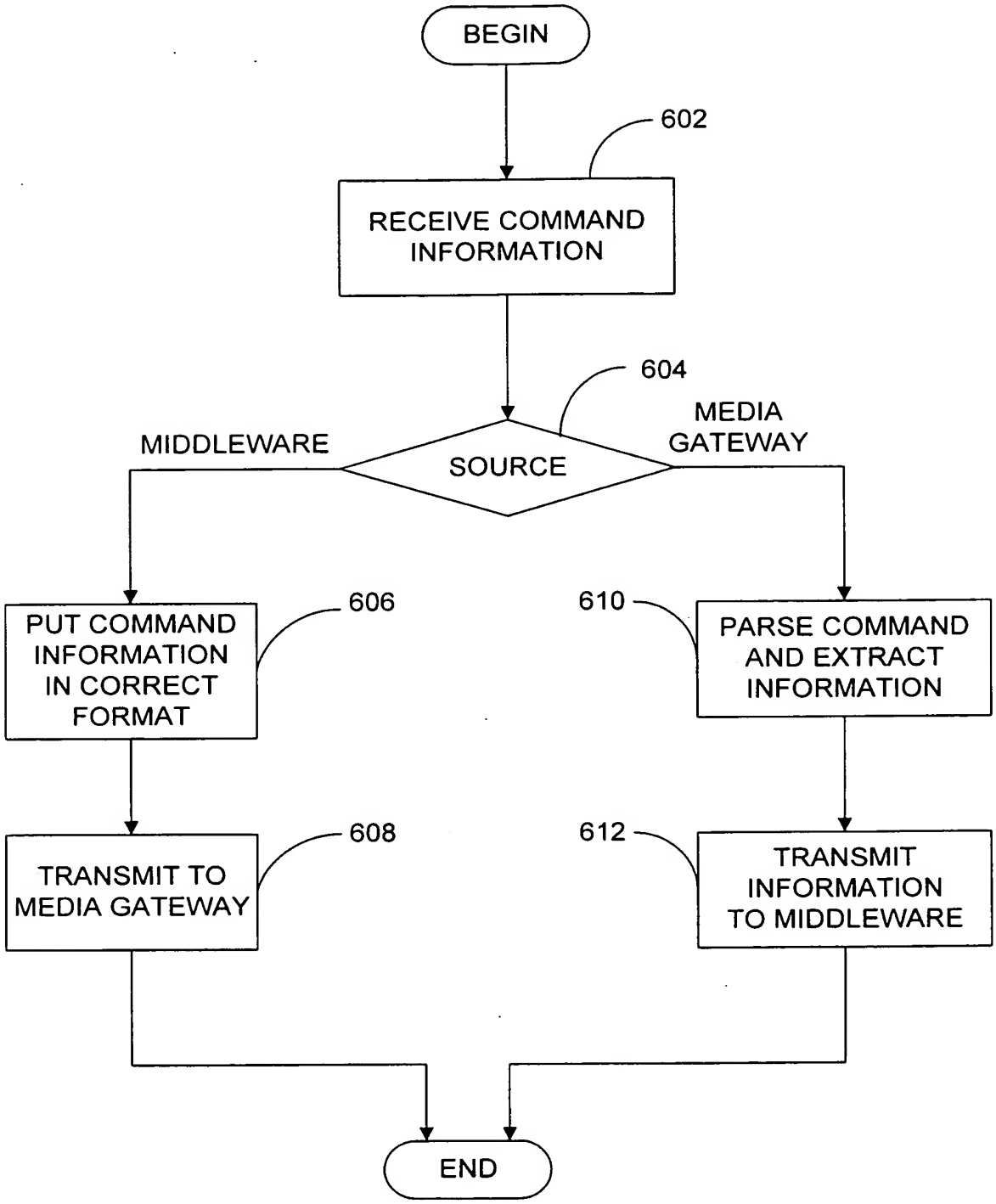
BEGIN
602
RECEIVE COMMAND INFORMATION
604
MIDDLEWARE
SOURCE
MEDIA GATEWAY
606
PUT COMMAND INFORMATION IN CORRECT FORMAT
610
PARSE COMMAND AND EXTRACT INFORMATION
608
TRANSMIT TO MEDIA GATEWAY
612
TRANSMIT INFORMATION TO MIDDLEWARE
END

FIG. 6

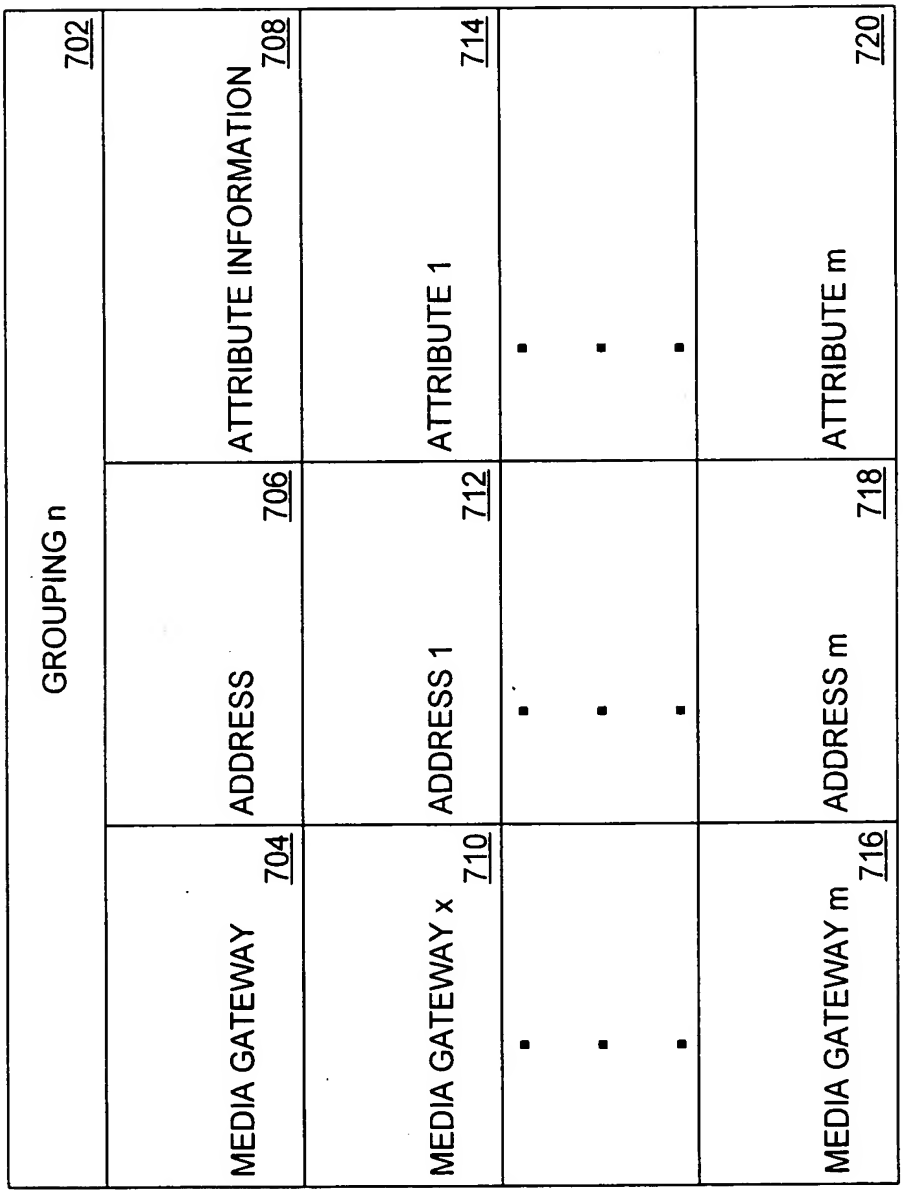
GROUPING n
702
MEDIA GATEWAY
704
ADDRESS
706
ATTRIBUTE INFORMATION
708
MEDIA GATEWAY x
710
ADDRESS 1
712
ATTRIBUTE 1
714
MEDIA GATEWAY m
716
ADDRESS m
718
ATTRIBUTE m
720

FIG. 7

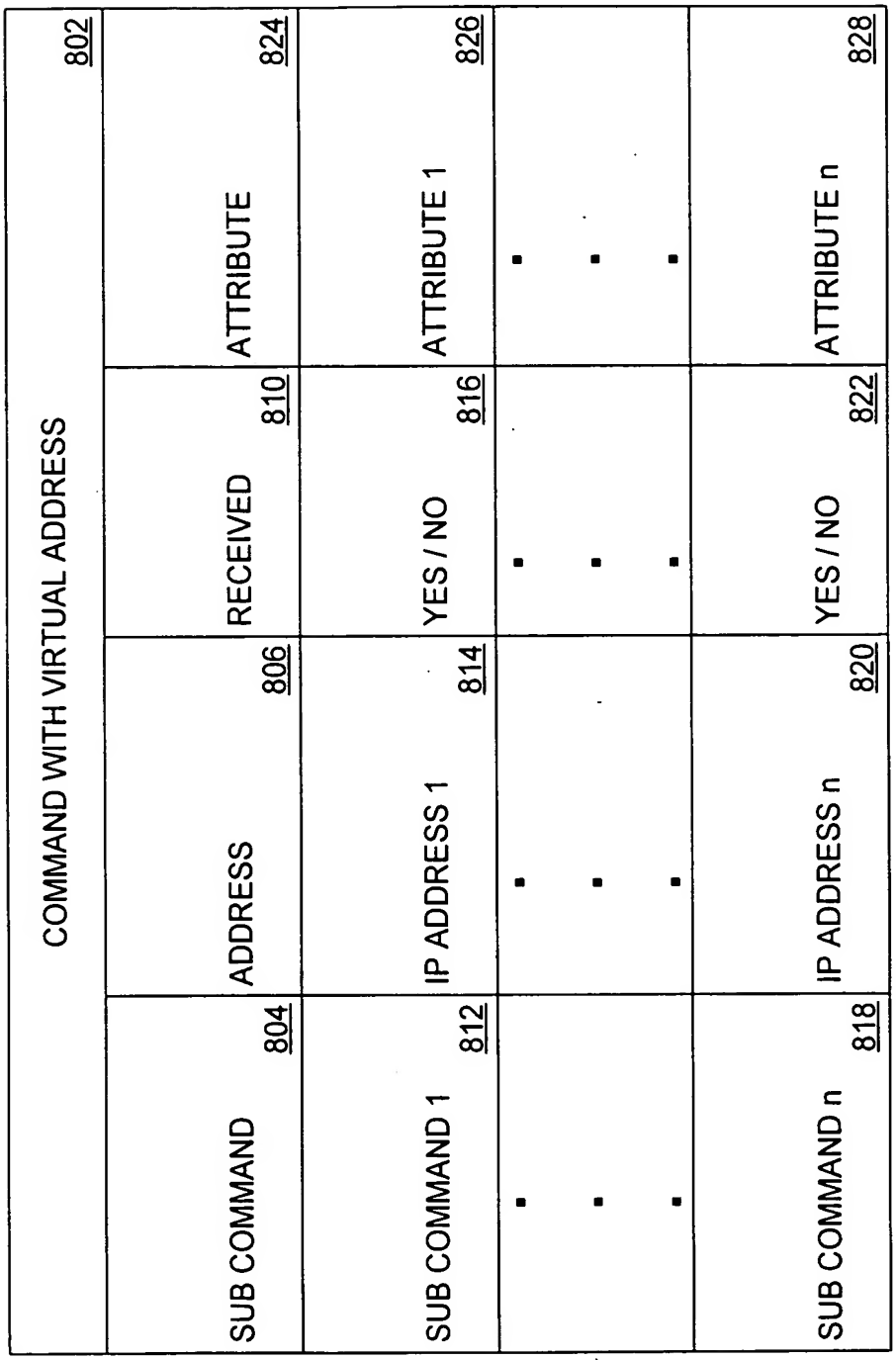
COMMAND WITH VIRTUAL ADDRESS
802
SUB COMMAND
804
ADDRESS
806
RECEIVED
810
ATTRIBUTE
824
SUB COMMAND 1
812
IP ADDRESS 1
814
YES / NO
816
ATTRIBUTE 1
826
SUB COMMAND n
818
IP ADDRESS n
820
YES / NO
822
ATTRIBUTE n
828

FIG. 8

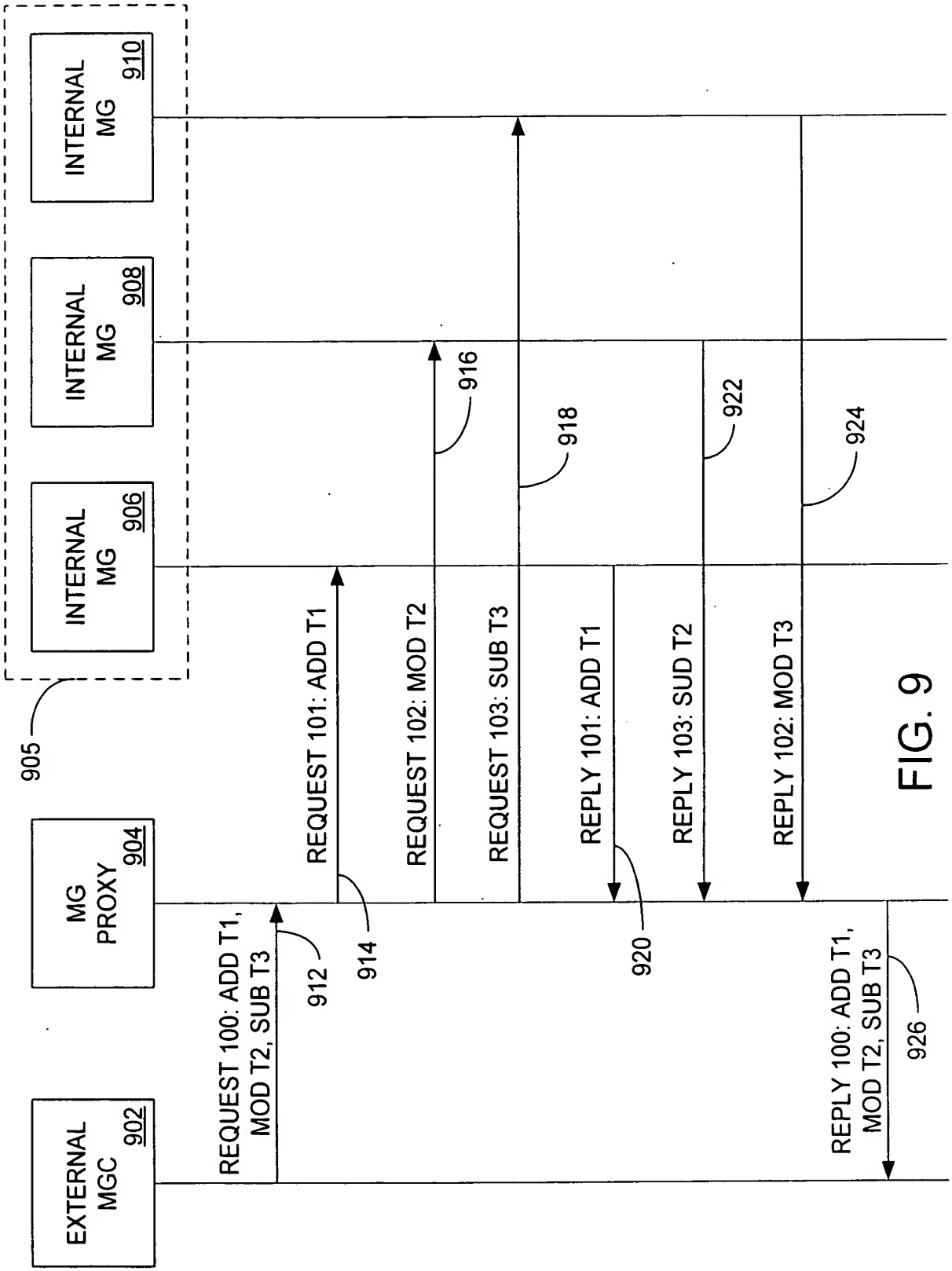
EXTERNAL MGC 902
MG PROXY 904
INTERNAL MG 906
INTERNAL MG 908
INTERNAL MG 910
905
REQUEST 100: ADD T1, MOD T2, SUB T3
912
REQUEST 101: ADD T1
914
REQUEST 102: MOD T2
916
REQUEST 103: SUB T3
918
REPLY 101: ADD T1
920
REPLY 103: SUD T2
922
REPLY 102: MOD T3
924
REPLY 100: ADD T1, MOD T2, SUB T3
926

FIG. 9

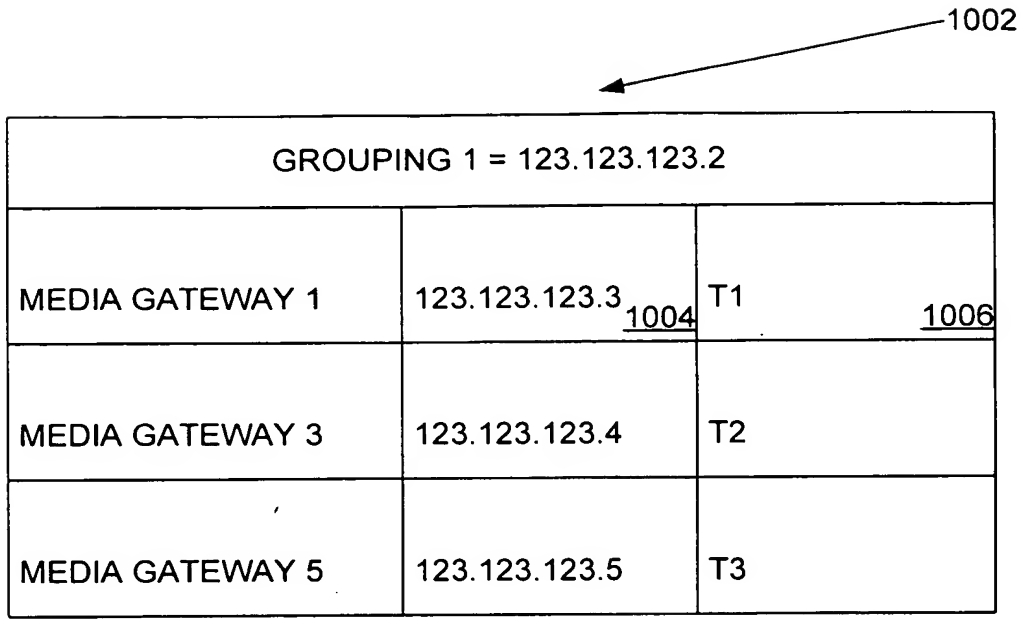
1002
GROUPING 1 = 123.123.123.2
MEDIA GATEWAY 1
123.123.123.3
1004
T1
1006
MEDIA GATEWAY 3
123.123.123.4
T2
MEDIA GATEWAY 5
123.123.123.5
T3

FIG. 10

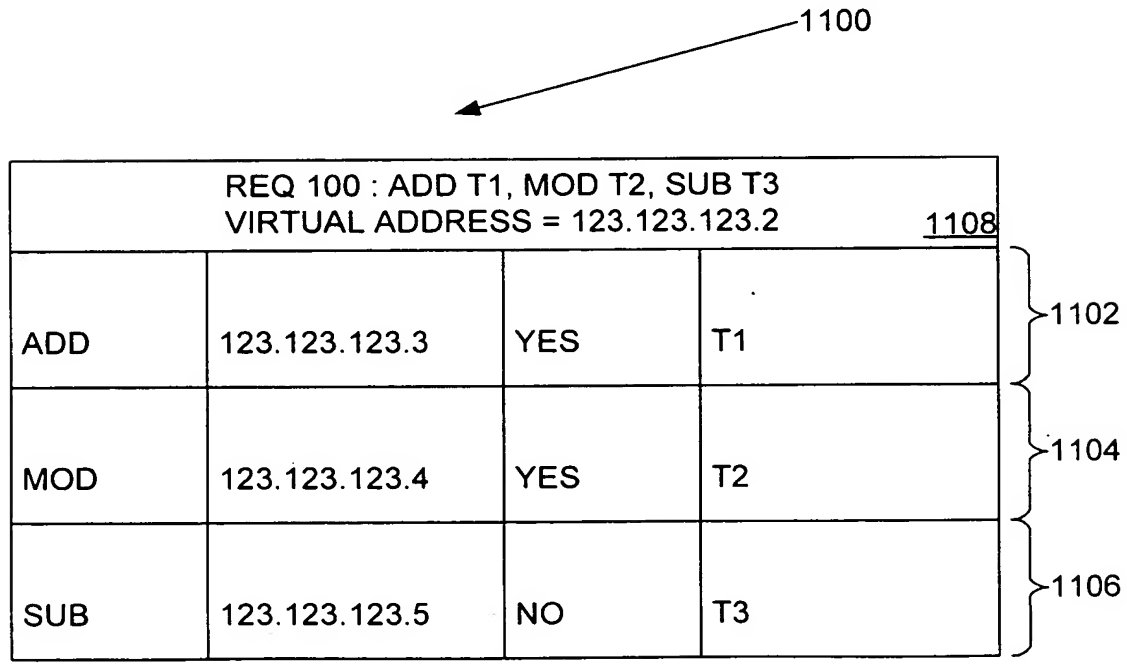
1100
REQ 100 : ADD T1, MOD T2, SUB T3
VIRTUAL ADDRESS = 123.123.123.2
1108
ADD
123.123.123.3
YES
T1
1102
MOD
123.123.123.4
YES
T2
1104
SUB
123.123.123.5
NO
T3
1106

FIG. 11

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```
MEGACO/1 [123.123.123.2]:55555
Transaction = 100 {
        Context = C1 {
                Add = T1 {
                        Media {media descriptor}
                }
        },
        Context = C2 {
                Modify = T2 {
                        Media {media descriptor}
                }
        },
        Context = C3 {
                Subtract = T3 {
                }
        }
}
```

FIG. 12

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```
MEGACO/1 [123.123.123.3]:55555
Transaction = 101 {
        Context = C1 {
                Add = T1 {
                        Media {media descriptor}
                }
        }
}
MEGACO/1 [123.123.123.4]:55555
Transaction = 102 {
        Context = C2 {
                Modify = T2 {
                        Media {media descriptor}
                }
        }
}
MEGACO/1 [123.123.123.5]:55555
Transaction = 103 {
        Context = C3 {Substract = T3}
}
```

FIG. 13

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```
MEGACO/1 [123.123.123.2]:55555
Reply = 101 {
    Context = C1 {Add = T1}

}
MEGACO/1 [123.123.123.2]:55555
Reply = 103 {
    Context = C3 {Subtract = T3}

}
MEGACO/1 [123.123.123.2]:55555
Reply = 102 {
    Context = C2 {Modify = T2}

}
```

FIG. 14

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```
MEGACO/1 [123.123.123.1]:55555
Reply = 100 {
    Context = C1 {Add = T1}
    Context = C2 {Modify = T2}
    Context = C3 {Subtract = T3}
}
```

FIG. 15